ABSTRACT OF THE DISCLOSURE

A local area network includes a plurality of devices and a firewall for interfacing the LAN to a wide area network. In the LAN, each device generates a message packets for transmission over the network in which a time to live field contains an initial value that is preferably selected to be a function of the maximum path length for transfer of message packets within the local area network. Similarly, the firewall, when it receives message packets from the WAN for transmission to a device on the LAN provides in the time to live field an initial value that is preferably selected to be a function of the maximum path length for transfer of message packets within the local area network. When the firewall received a message packet from the LAN for transmission over the WAN, it provides a default initial value that is selected for use for message packets transmitted over the WAN in the time to live field, which typically will be significantly higher than the initial value that is used in the local area network. Since the initial time to live value used in the local area network is preferably selected to be a function of the maximum path length for transfer of message packets within the local area network, it can be much lower than the value that is typically used. This can reduce the bandwidth taken up by message packets that are in a loop in the local area network, which, in turn, can allow for increased bandwidth available for message packets that are being transferred through a portion of the loop but which are not themselves looping through the entire loop.